UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,397	09/25/2001	Mingqiu Sun	P281404 P12147	5525

27496 7590 01/26/2005		EXAMINER
PILLSBURY WINTHROP LLP		JACOBS, LASHONDA T

ART UNIT	PAPER NUMBER
2157	

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DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/961,397	SUN ET AL.
	Examiner	Art Unit
	LaShonda T Jacobs	2157

-- Th MAILING DATE of this communication appears on the cover sheet with th correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _25 September 2001_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-29_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 1142005

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.   Claim **1** recites the limitation "the deviation" in line 5. There is insufficient antecedent basis for this limitation in the claim.

3.   Claim **6** recites the limitation "the deviation" in line 8. There is insufficient antecedent basis for this limitation in the claim.

4.   Claim **10** recites the limitation "the deviation" in line11. There is insufficient antecedent basis for this limitation in the claim.

5.   Claim **10** recites the limitation "the normal network health" in lines 12-13. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims **1-29** are rejected under 35 U.S.C. 102(b) as being anticipated by Manghirmalani et al (hereinafter, "Manghirmalani", U.S. Pat. No. 5,819,028).

As per claims **1** and **21**, Manghirmalani teaches a method and computer-readable medium encoded with a program comprising:

- sending, from a distributed agent located in a segment of a network to a network health
  monitoring mechanism, a heartbeat signal (abstract, col. 5, lines 39-50);

- receiving, by the network health monitoring mechanism, the heartbeat signal (col. 5,
  lines 39-50); and

- determining the health of the segment of the network according to the deviation of the
  heartbeat signal from a baseline pattern (col. 6, lines 34-48, col. 7, lines 56-57, col. 8,
  lines 1-15 and lines 22-40).

As per claims **2** and **22**, Manghirmalani teaches wherein the sending the heartbeat signal

comprises:

- generating the heartbeat signal according to a pre-determined configuration (col. 5, lines
  39-50); and

- transmitting the heartbeat signal according to a pre-configured timing (col. 5, lines 39-
  50 and col. 7, lines 52-55).

As per claims **3** and **23**, Manghirmalani teaches wherein the determining the health

comprises:

- extracting, by the network health monitoring mechanism, content from the heartbeat
  signal, received by the receiving (col. 5, lines 39-50);

- retrieving the baseline pattern (col. 8, lines 9-15);

- analyzing the deviation between the heartbeat signal and the baseline pattern (col. 8,
  lines 1-15) and

- verifying the health of the segment of the network based on the deviation (col. 8, lines
  22-50).

As per claims **4** and **24**, Manghirmalani teaches a method and computer-readable encoded with a program for a distributed agent, comprising:

- generating a heartbeat signal containing content specified by a pre-determined configuration (col. 5, lines 39-50); and

- transmitting the heartbeat signal according to a timing (col. 5, lines 39-50 and col. 7, lines 52-55).

As per claims **5** and **25**, Manghirmalani further teaches:

- performing the pre-determined configuration col. 5, lines 39-50); and

- setting up a timer that controls the timing of the transmitting (col. 5, lines 39-50 and col. 7, lines 52-55).

As per claims **6** and **26**, Manghirmalani teaches a method and computer-readable encoded with a program for monitoring network health, comprising:

- receiving a heartbeat signal from a distributed agent located in a segment of a network (col. 5, lines 39-50); and

- determining the health of the segment of the network based on the deviation of the heartbeat signal from a baseline pattern (col. 6, lines 34-48, col. 7, lines 56-67, col. 8, lines 1-15 and lines 22-46).

As per claims **7** and **27**, Manghirmalani teaches wherein the receiving a heartbeat signal comprises:

- listening to the distributed agent (col. 5, lines 39-50); and

- intercepting the heartbeat signal when the distributed agent sends the heartbeat signal (col. 5, lines 39-50).

As per claims **8** and **28**, Manghirmalani teaches wherein the determining the health

comprises:

- extracting, by the network health monitoring mechanism, content from the heartbeat

  signal, received by the receiving (col. 5, lines 39-50);

- retrieving the baseline pattern (col. 8, lines 9-15);

- analyzing the deviation between the heartbeat signal and the baseline pattern (col. 8,

  lines 1-15) and

- verifying the health of the segment of the network based on the deviation (col. 8, lines

  22-50).

As per claims **9** and **29**, Manghirmalani further teaches comprising:

- identifying, prior to the retrieving, the segment of the network based on received

  heartbeat signal (col. 5, lines 39-50 and col. 10, lines 43-47);

- reporting the health of the segment of the network based on the result from the verifying

  (col. 5, lines 39-50); and

- updating the baseline pattern based on the deviation (col. 8, lines 9-15).

As per claim **10**, Manghirmalani teaches a system, comprising:

- a plurality sets of agents distributed in a network for sending heartbeat signals, wherein

  each set of agents is located within a segment of the network (abstract, col. 5, lines 39-

  50);

- a network health monitoring mechanism for monitoring the health of different segments

  of the network based on the deviation between the heartbeat signals, received from the

agents located in the segments, and one or more baseline patterns representing the

normal health of the network (abstract, col. 5, lines 39-50 and col. 8, lines 8-29).

As per claims **11** and **15**, Manghirmalani teaches wherein each of the agents comprises:

- a heartbeat signal generator for generating a heartbeat signal containing content

  specified by a pre-determined configuration (col. 5, lines 39-50 and col. 10, lines 43-

  47);

- a timer for controlling the timing of transmitting the heartbeat signal (col. 5, lines 39-50

  and col. 7, lines 52-55); and

- a heartbeat transmitter for transmitting the heartbeat signal according to the timing

  specified by the timer (col. 5, lines 39-50).

As per claims **12** and **16**, Manghirmalani further teaches:

- a configuration mechanism for performing the pre-determined configuration and for

  setting up the timer (col. 5, lines 39-50 and col. 7, lines 52-55).

As per claims **13** and **17**, Manghirmalani teaches a network health monitoring mechanism

comprising:

- a heartbeat listener for listening to the plurality sets of agents and for receiving a

  heartbeat signal from a distributed agent located in a segment of the network (col. 5, lines

  39-50); and

- a heartbeat analysis mechanism for determining the health of the segment of the network

  based on the deviation of the heartbeat signal from a baseline pattern (col. 6, lines 34-48,

  col. 7, lines 56-67, col. 8, lines 1-15 and lines 22-46).

As per claim **14**, Manghirmalani further teaches:

- a network health reporting mechanism for reporting and recording the information related

  to the health of the network (col. 5, lines 39-50, col. 6, lines 34-48 and col. 10, lines 43-

  47).

As per claim **18**, Manghirmalani teaches wherein the heartbeat analysis mechanism

comprises:.

- a heartbeat content extractor for extracting content from the heartbeat signal (col. 5,

  lines 39-50);

- a deviation detector for detecting the deviation between the heartbeat signal and the

  baseline pattern (col. 8, lines 1-15); and

- a network health determiner for determining the health of the segment of the network

  based on the deviation (col. 5, lines 39-50 and col. 8, lines 1-29).

As per claim **19**, Manghirmalani further teaches:

- a network segment identifier for identifying the segment from where the heartbeat signal

  is received (col. 5, lines 39-50 and col. 10, lines 43-47);

- a baseline pattern retriever for retrieving the baseline pattern corresponding to the

  segment of the network (col. 8, lines 1-15); and

- a network health reporting mechanism for reporting and recording the information

  related to the health of the network (col. 5, lines 39-50 and col. 10, lines 43-47).

As per claim **20**, Manghirmalani further teaches:

- a baseline updating mechanism for updating the baseline pattern based on the deviation

  and the information related to the health of the network (col. 7, lines 25-55, col. 8, lines

  9-31)

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

U.S. Pat. No. 6,754,664 to Bush

U.S. Pat. No. 5,919,248 to Kahkoska et al

U.S. Pat. No. 6,446,123 to Ballantine et al

U.S. Pat. No. 6,349,325 to Newcombe et al

U.S. Pat. No. 6,782,496 to Fleming

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LaShonda T Jacobs whose telephone number is 571-272-4004.

The examiner can normally be reached on 8:30 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ltj   LaShonda T Jacobs
January 14, 2005   Examiner
                                                            Art Unit 2157

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